AMENDMENTS TO THE CLAIMS

Please amend claims 1, 13, 18, and 27.

Please enter the pending claims as follows:

This listing of the claims replaces all prior versions, and listings, of claims in the application.

Listing of the Claims

1. (Currently Amended) A method comprising:

determining an index-matching liquid;

determining a set of one or more constituents based on said index-matching liquid;

providing a photoresist;

adding said set of one or more constituents to said photoresist; and

altering liquid-contact properties of said photoresist, said properties comprising density, wet ability, and molecular organization.

2. (Previously Presented) The method of claim 1 wherein said set of one or more constituents is determined based upon said index-matching liquid of an immersion lithography exposure system.

3. (Previously Presented) The method of claim 2 wherein said index-matching liquid comprises water.

4. (Previously Presented) The method of claim 3 wherein said set of one or more constituents comprises at least one water-insoluble constituent.

5. (Previously Presented) The method of claim 4 wherein said at least one water-insoluble constituent is selected from a group consisting of a hydrophobic ionic photoacid generator and a non-ionic photoacid generator.

6. (Previously Presented) The method of claim 4 wherein said at least one water-insoluble constituent comprises a water-insoluble quencher.

7. (Previously Presented) The method of claim 4 wherein said at least one water-insoluble constituent comprises a water-insoluble polymer.

8. (Previously Presented) The method of claim 4 wherein water-soluble constituents are bound to said at least one water insoluble constituent via a binding method

selected from a group consisting of covalent binding, ion pairing, and Van der Waal's forces.

9. (Previously Presented) The method of claim 4 wherein said at least one water-insoluble constituent may react when said photoresist is used to modulate susceptibility to etch.

10. (Previously Presented) The method of claim 3 wherein said set of one or more constituents comprises at least one water-soluble constituent.

11. (Previously Presented) The method of claim 10 wherein said at least one water-soluble constituent is selected from a group consisting of a water-soluble photoacid generator, a water-soluble quencher, a water-soluble buffer, a water-soluble surfactant, and a water-soluble plasticizer.

12. (Previously Presented) The method of claim 11 wherein said water-soluble surfactant is a fluorocarbon-based surfactant.

13. (Currently Amended) An apparatus comprising:

a substrate;

a photoresist deposited on said substrate, said photoresist having incorporated therein one or more additives that ~~alter~~ improve liquid-contact properties of said photoresist;

an index-matching liquid disposed in contact with said photoresist; and

a last lens element disposed in contact with said index-matching liquid.

14. (Previously Presented) The apparatus of claim 13 wherein said liquid-contact properties of said photoresist are specific to a particular liquid.

15. (Previously Presented) The apparatus of claim 14 wherein said particular liquid comprises water and said one or more additives comprises at least one hydrophobic additive.

16. (Previously Presented) The apparatus of claim 15 wherein said at least one hydrophobic additive comprises an ionic photoacid generator.

17. (Previously Presented) The apparatus of claim 15 wherein said at least one hydrophobic additive comprises a water-insoluble quencher.

18. (Currently Amended) The apparatus of claim 15 wherein at least one of said hydrophobic additives comprises a water-insoluble polymer.

19. (Previously Presented) The apparatus of claim 15 wherein water-soluble constituents are bound to said at least one hydrophobic additive via a binding method selected from a group consisting of covalent binding, ion pairing, and Van der Waal's forces.

20. (Previously Presented) The apparatus of claim 15 wherein said at least one hydrophobic additive may react when said photoresist is used to modulate susceptibility to etch.

21. (Previously Presented) The apparatus of claim 14 wherein said particular liquid ~~is~~ comprises water and said one or more additives comprises at least one hydrophilic additive.

22. (Previously Presented) The apparatus of claim 21 wherein said at least one hydrophilic additive comprises a water-soluble quencher.

23. (Previously Presented) The apparatus of claim 21 wherein said at least one hydrophilic additive comprises a water-soluble buffer.

24. (Previously Presented) The apparatus of claim 21 wherein said at least one hydrophilic additive comprises a water-soluble surfactant.

25. (Previously Presented) The apparatus of claim 24 wherein said water-soluble surfactant comprises a fluorocarbon-based surfactant.

26. (Previously Presented) The apparatus of claim 21 wherein said at least one hydrophilic additive comprises a water-soluble plasticizer.

27. (Currently Amended) A system comprising:

a last lens element of a lithography exposure system, said last lens element having a specific index of refraction;

an index-matching liquid in contact with said last lens element, said index-matching liquid having an index of refraction equal to said specific index of refraction to within a specified tolerance; and

a photoresist layer in contact with said index-matching liquid, said photoresist layer composed of photoresist having incorporated therein one or more constituents that improve ~~contact~~ liquid-contact properties between said index-matching liquid and said photoresist layer.

28. (Previously Presented) The system of claim 27 wherein said index-matching liquid comprises water and said one or more constituents comprises at least one water-insoluble constituent.

29. (Previously Presented) The system of claim 28 wherein said at least one water-insoluble constituent comprises a constituent selected from a group consisting of a non-ionic photoacid generator, a hydrophobic ionic photoacid generator, a quencher, a polymer, an oligomer, and a molecular species.

30. (Previously Presented) The system of claim 27 wherein said index-matching liquid comprises water and said one or more constituents comprises at least one water-soluble constituent wherein said at least one water-soluble constituents comprises a constituent selected from a group consisting of a water-soluble photoacid generator, a water-soluble quencher, a water-soluble buffer, a water-soluble surfactant, and a water-soluble plasticizer.